ALEXANDRE CARMINOT

Master's Engineering Student - Medical Engineering & AI

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EDUCATION

Master of Engineering - eHealth and Machine Learning
09/2019 - Present
EPF Engineering School Paris   Expected Graduation in 2025

· Engineering curriculum with a healthcare specialization: integrating core engineering principles, mathematics, programming, and machine learning with medical technology, device design, and healthcare informatics.

Computer Science & AI - Exchange Program
09/2024 - Present
Tianjin University

· Focus on Algorithmic programming, machine learning , computer vision, and applied data science

Intelligent Medical Engineering - Exchange Program
09/2023 - 01/2024
Tianjin University

· Specialized in Precision medicine, neurosciences, brain-computer interfaces (BCI), medical imaging, and medical engineering.

EXPERIENCE

Internship

AI Intern, Genomics   03/2025 - Present
BGI Genomics   Shenzhen

· Developing a phage genome generation method using LLM and multi-layer Transformer architecture. Designing feature representation strategies for long sequences, optimizing processing efficiency with evo/evo2 dimensionality reduction.

· Introduce an explainability module for model transparency using feature attribution methods. Validate the method's application in phage testing, providing practical pathways and theoretical support.

Zen2050Maintenant   06/2022 - 9/2022

· Developed and orchestrated interactive exhibition stands for Zen2050's annual event, creating eco-conscious games, climate-themed art, and educational activities that engaged visitors in sustainability initiatives.

Work Experience

AI Model Review Specialist   01/2024 - 01/2025
Outlier.AI   Remote

· Assessed scientific, logical, and coding reasoning in AI responses, validating complex algorithms and technical explanations to improve model precision and reliability

Private Tutor and Esports Coach   06/2022 - 09/2023

· Led personalized tutoring sessions in Math and Physics and esports for 10 students, strengthening foundational skills and boosting student confidence in subject mastery.

PROJECTS   Find my other Projects here

Disease Prediction Algorithm - Python   [GitHub Link] 07/2024 - 09/2024
Developed a medical diagnostic tool that predicts 41 diseases from 131 symptoms with 96% accuracy, using a multi-layer neural network built with numpy.

· Developed multi-layer neural network with dynamic layer configuration, dropout rate and backpropagation for maximized F1-score and minimized overfitting using numpy.

· Enhanced model robustness by benchmarking against an optuna-tuned ensemble (XGBoost, SVM & ReLU) with cross-validation (84% to 96% with the ensemble model).

BCI Workshop - MATLAB,C++   [GitHub Link]   09/2023 - 10/2023
Led a team to develop a real-time hand gesture recognition & reproduction system achieving 98% accuracy using:

· Custom pattern recognition algorithms processing flexion sensor data

· Real-time classification of 6 distinct hand gestures (static & dynamic)

· Implemented signal processing pipeline for noise reduction and feature extraction

CERTIFICATIONS

TensorFlow developer   DeepLearning.AI - Fall 2024

Advanced Medical Neuroscience   Duke University - Summer 2024

Advanced Machine Learning on Google Cloud   Google - Fall 2024

Machine Learning Specialization   Stanford University - Fall 2024

ABOUT ME

As a student of engineering and medicine, my journey is rooted in the intersection of these fields.
Focusing on machine learning and medical engineering, I am dedicated to exploring neuroscience, genomics, and artificial intelligence.
This path has led me into brain-computer interfaces, neuro-engineering, and computational genomics, where I develop AI-driven solutions bridging technology with human capability and biological innovation.

FIND ME ONLINE

 Alexandre CARMINOT [Link]

 My Portfolio [Link]
 My Projects [Link]

 Alexandre CARMINOT [Link]

SKILLS

Programming

Python - C++ - Java - Docker - Git

Google Cloud - MATLAB - SQL

HTML, CSS & JavaScript

Frameworks and Libraries

TensorFlow - Keras - MNE - PyTorch

Scikit - Seaborn - SciPy - NumPy

ML/AI

Machine Learning - Deep Learning

DNN - LLM - NLP - Computer Vision

Engineering Skills

Problem Solving - Innovation - Analysis

Critical thinking - Genomics

Medical engineering - Neurosciences

LANGUAGES

French   Native, Voltaire Certification

English   Expert, TOEIC (980/990)

Spanish   Intermediate, B1

Chinese   Elementrary, HSK3

PASSIONS

· Martial Arts: Taekwondo (Red Belt), Judo (Brown Belt)

· Team sports: Rugby & Soccer

· Music: Piano (Playing for seven years)

· Science: Astronomy, Cosmology, Archaeology